ALASKA
REVIEW OF SOCIAL AND ECONOMIC CONDITIONS

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Alaska's Economy: What's Ahead?

We'll know the Alaska recession is over when we can open a newspaper and see no mention of layoffs or banks on the brink of failure; when we go to a store we haven't been to in six months and find it still in business; when we can drive around and see no notices for garage sales that say: Everything Must Go—Leaving State.

When will the recession let go, and what lies beyond it? We believe that the worst of the recession—as measured by job loss—is now behind us. If oil prices remain stable in the range of $16 to $20 a barrel, the recession will likely end in mid-1988. During the recession the economy has lost jobs, population, and income—but by no means will we lose everything we gained during the boom years of the early 1980s. Once the recession ends, the economy should begin growing again—but at a much slower rate than the breakneck pace of several years ago. And unlike in the recent past, when we could always look to some big specific project or event to push the economy, this time we think it will be moderate growth throughout Alaska's basic industries that will lead us out of the doldrums over the next several years.

In this *Review* we describe what caused the recession, assess how much it has cost Alaska, and project economic change through 1995. Our economic projections are based on what we know right now. As we learn more in the coming months we'll be revising our projections. What we say here is our best judgment as of late 1987, and we think it is sound. But as all Alaskans know, the Alaska economy is changeable and forecasting its movements is risky: you never know what surprises might be waiting around the bend.

In the first sections we briefly discuss Alaska's economy in general and describe the causes and dimensions of the economic boom of the early 1980s. Then we turn to an analysis of the recession and the economic projections.

Methods of Economic Forecasting

We made our projections through the use of a computer simulation model developed by ISER. The projections cover what now looks like the probable range of change through three scenarios—high, medium, and low—that incorporate different assumptions about the future price of oil and other factors that will influence the economy.

The high case assesses what would happen if oil prices suddenly rose to $26 a barrel (in 1986 dollars) and stayed that high throughout the forecast period. The medium case assumes that oil prices remain stable in their current range of about $18 a barrel (again, in 1986 dollars) and stay around that level through 1995. The low case is a worst-case scenario that we consider extremely unlikely but which we include to illustrate what would happen if there were a prolonged collapse of oil prices—if the price of oil dropped below $15 a barrel and stayed that low for several years.[1]

We consider the medium case most likely, if oil prices in fact remain stable in their current range. It is

[1] A listing of the other major assumptions in each case appears in Appendix A of *Alaska's Economy and Housing Market*, available from ISER.

This **Review** *is based largely on materials from* **Alaska's Economy and Housing Market** *(October 1987), an ISER report prepared for the Alaska Housing Finance Corporation. AHFC commissioned the report to help the corporation in its efforts to stabilize the Alaska housing market, which has been hit hard by the current recession. This publication describes the economic forecasts in the ISER report; an upcoming* **Review** *will discuss the report's findings on the housing market.*

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Donald O'Dowd–President, University of Alaska
Marvin O. Looney–Chancellor, University of Alaska Anchorage
E. Lee Gorsuch–Director, Institute of Social and Economic Research

Editor: Linda Leask
Editorial Assistant: Kandy L. Crowe
907-786-7710

Main Institute Office:
3211 Providence Drive
Anchorage, Alaska 99508

FEATURE

Oliver Scott Goldsmith Alaska's Economy: What's Ahead?

Oliver Scott Goldsmith is professor of economics with ISER.

the medium-case projections that we discuss most in the following pages, and in those figures where only one projection is included, it is the medium case. Other figures include projections under all three cases, to show how the economy would change in response to changes in assumptions.

Another important point to remember about the actual and projected employment figures we use throughout this article is that all are adjusted to remove the effects of seasonal fluctuations.

BACKGROUND: ALASKA'S ECONOMY

In Alaska in recent years, talk about the economy has mostly meant talk about oil. High oil prices in the early 1980s brought Alaska billions of dollars and tens of thousands of new jobs. Collapsing oil prices helped pitch the state into the current recession. And oil prices will be key in determining how fast Alaska's economy recovers over the next several years, although growth in other basic industries will take on increased importance.

Why has oil had such a pervasive influence on Alaska's economy in recent times? A lucky set of circumstances made development of the Prudhoe Bay oil field different from a number of previous developments.

Before the huge Prudhoe Bay field was developed, Alaska was a state of relatively modest means. Military and other federal government spending and a handful of resource industries—fishing, mining, logging, and some oil production in Cook Inlet—formed the state's economic base. Alaska's cold climate, rugged terrain, and isolation made it an expensive and difficult place to do business. High costs and other factors restricted economic development. In recent years, improved transportation and communications have begun to alter those historical limitations, but most kinds of economic activities can still be carried out for less in other places.

Alaska's main draw—aside from its strategic military location—has been and continues to be its many natural resources. But in a number of past resource developments, little of the income from development made its way into Alaska's economy: entrepreneurs came in, harvested the resources, and left with most of the profits.

Unlike these earlier developments, Prudhoe Bay oil has been a bonanza for Alaska's economy and its state government. Three things made this development different. First, the state government owns the Prudhoe Bay field—which means it not only collects taxes but also royalties from oil production. Second, the Prudhoe Bay field and adjacent fields produce very large amounts of oil—currently about 1.9 million barrels a day. Finally, in 1979—soon after oil began flowing from Prudhoe Bay—the world price of oil tripled (reaching around $30 a barrel) and stayed high for several years.

Taken together, those circumstances meant that

the state government came into billions of dollars in petroleum revenues in the early 1980s. But as a consequence, the state became extremely vulnerable to changes in the price of oil: throughout the 1980s, petroleum revenues have made up 80 percent or more of the state's unrestricted general fund revenues (which do not include federal grants or earnings of the Permanent Fund).

Figure 1 shows the tremendous growth in state government revenues from the 1970s to the early 1980s, the sharp drop-off in the late 1980s, and petroleum's contribution to state revenues. From 1972 to 1979, the state's unrestricted general revenues grew from $220 million to $1.1 billion, and petroleum revenues jumped from 21 percent of total revenues to 73 percent. By 1980, the state took in $2.5 billion, and revenues kept climbing to peak at $4.1 billion in 1982. From 1980 through 1982, petroleum revenues made up 90 percent of total revenues.

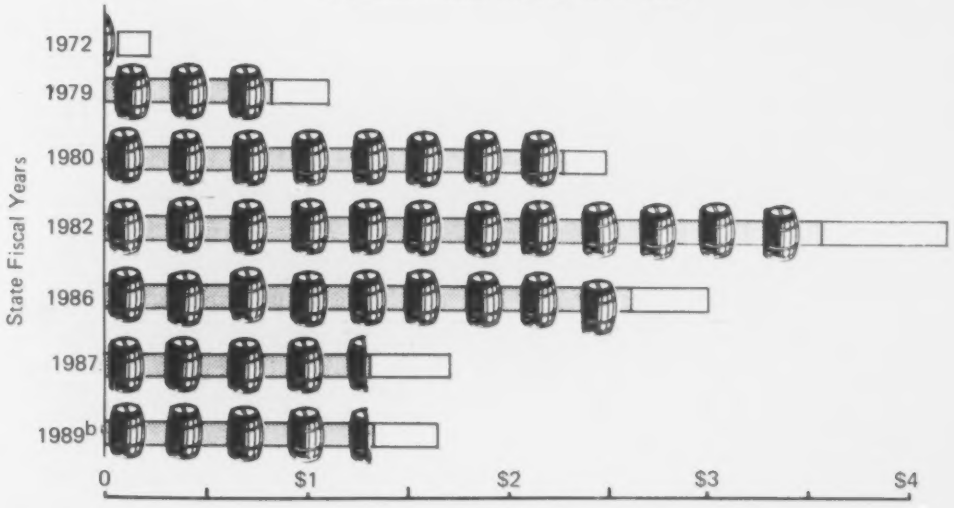
After 1982 oil prices started to fall, but it was in 1986 that prices briefly plummeted as low as $10 a barrel. State revenues in fiscal 1987 dropped to around $1.7 billion—a decline of more than 40 percent from the previous year, and nearly 60 percent less than 1982 revenues. As of late 1987, state officials estimate that petroleum revenues in fiscal 1989 will be in the neighborhood of $1.7 billion. Even as petroleum revenues decline, they will continue to make up more than 80 percent of the state's unrestricted general fund revenues.

THE BOOM

Expansive state spending was responsible for most of the growth in jobs, population, and incomes in Alaska from 1980 through 1985: during those five years, the number of wage and salary jobs in the state grew 35 percent, from 170 thousand to 227 thousand; population 30 percent, from 414 thousand to 540 thousand; and total personal income 70 percent, from $5.6 billion to $9.5 billion.

What did Alaska do with its oil billions in the first half of the 1980s? Nearly everything. The state spent most of its money in ways that reached throughout the economy—building new roads, community centers, harbors, and hundreds of other capital projects; subsidizing loans for homebuyers, students, and others; and boosting aid to local govern-

Figure 1. State of Alaska General Fund Revenues, Petroleum and Total[a] Selected Fiscal Years, 1972-1989



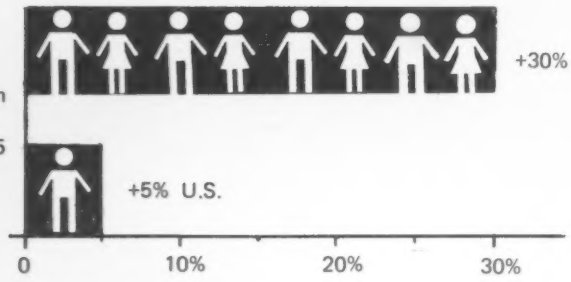
[a]Includes just unrestricted general fund revenues; excludes restricted revenues, which are mainly federal grants-in-aid. Graph represents actual revenues received with no adjustment for inflation.

[b]Estimate as of June 1987.

Source: Alaska Department of Revenue, *Revenue Sources*, FY 1987-89, Quarterly Update, June 1987.

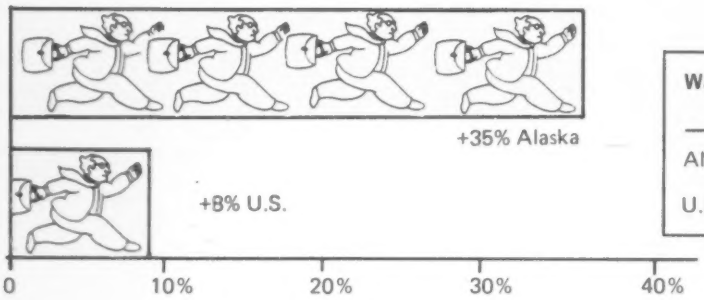
Figure 2. Growth in Population, Jobs, and Personal Income Alaska and the U.S., 1980-1985

Population Increase, 1980-1985



Population	1980	1985
Alaska	414 thousand	540 thousand
U.S.	228 million	239 million

Wage & Salary Job Growth, 1980-1985

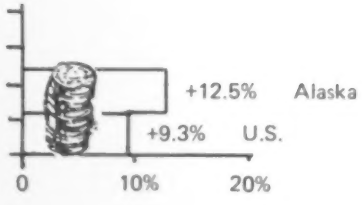


Wage & Salary Jobs	1980	1985
Alaska	170 thousand	227 thousand
U.S.	90 million	97 million

Total Personal Income Growth, 1980-1985

Total Personal Income	1980	1985
Alaska	$ 5.6 billion	$ 9.5 billion
U.S.	$2,252 billion	$3,310 billion

Growth in Real per Capita Disposable Income, 1980-1985



Real Disposable per Capita Income (1986 $)	1980	1985
Alaska	$14,437	$16,245
U.S.	$11,030	$12,059

ments, among many other things.[2]

Figure 2 gives us a graphic measure of just how extraordinary the growth in Alaska was in the first half of the 1980s: it compares growth in Alaska with growth in the U.S. as a whole during that period. The population of the entire country increased about 5 percent during that time and the number of wage and salary jobs about 8 percent. Jobs and population in Alaska increased more than four times that fast. Total personal income (not adjusted for inflation) throughout the U.S. grew 47 percent from 1980 through 1985, compared with 70 percent in Alaska.

Most of the income growth in Alaska in those five years took place between just 1980 and 1982. Per capita incomes of all Americans actually grew more than those of Alaskans over the entire period from 1980 through 1985—40 percent as compared with Alaska's 34 percent. But if we look at changes in purchasing power as measured by real per capita disposable income—income adjusted for inflation and minus taxes—Alaskans fared better than other Americans in the first half of the 1980s: real per capita disposable incomes of Alaskans grew about 12.5 percent as compared with 9.3 percent for all Americans. The average purchasing power of Alaskans increased more because inflation in Alaska[3] was somewhat lower than in the entire U.S. during that period, and because Alaskans paid no state personal taxes and low local taxes during those years.

THE RECESSION

We date the recession from late 1985 because it was then that the economy as a whole began losing more jobs than it was creating. The recession has now lasted two years, and we think that the worst—as measured by job loss—is now behind us. Our medium case projects that the recession will bottom out in mid-1988 and that slow but steady growth will follow.

Big government spending created the great Alaska boom by pumping billions of dollars into the economy in a short time. Construction in the state burgeoned overnight. Businesses overextended themselves, because they expected state and local government spending to keep growing and to keep stimulating the economy.

But the high oil prices that had propped up state spending began to drift down as early as 1982, and by late 1985 the effects of lower oil prices on state revenues and spending had brought on an economic slowdown. Construction had already started shrinking after expanding so much in the early 1980s, and businesses found that the level of economic activity they had anticipated wasn't there.

The recession began in the last quarter of 1985, before the crash in oil prices in early 1986. But that crash has made the recession longer and much more severe than it would otherwise have been, because (1) it led the oil companies to sharply curtail spending for exploration and development in Alaska; (2) it drastically reduced the budgets (particularly capital budgets) of state and local governments; and (3) it made consumers and businesses lose confidence in the economy.

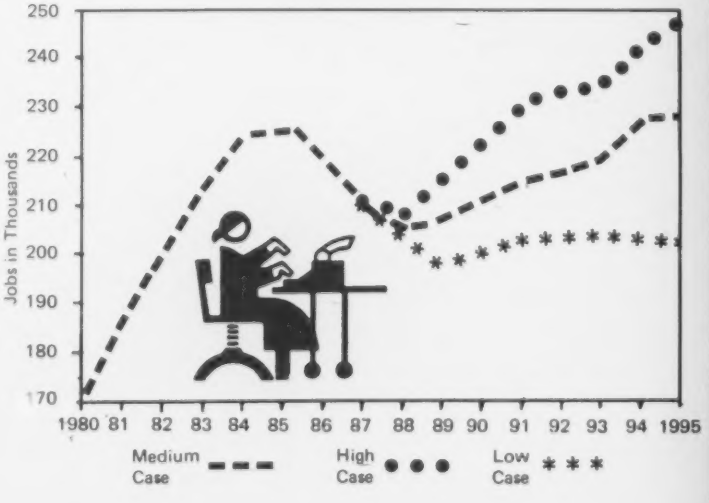
Job Loss

Our medium case projects that before the recession ends, Alaska will lose 10 percent of the wage and salary jobs it had at the employment peak in 1985. But we will still have nearly 20 percent more jobs than we had in 1980.

Figures 3 through 9 give us a picture of how many jobs were added to the Alaska economy in the first half of the 1980s and how many we're likely to lose by the end of the recession.

Figure 3 shows overall change in the number of wage and salary jobs in Alaska from 1980 through mid-1987 (as well as projected change under low,

Figure 3. Alaska Wage and Salary Employment, Historical and Projected Under Three Cases, 1980-1995



[2]For a detailed examination of where Alaska spent its oil billions, see "Where Have All the Billions Gone?" *Alaska Review of Socal and Economic Conditions*, February 1987, Vol. XXIV, No. 1.

[3]Inflation in Alaska as measured by the Anchorage Consumer Price Index, which is the only time series that measures price changes in Alaska.

medium, and high cases, which we discuss in a later section on projections). Figures 4 through 8 are employment indexes for all Alaska wage and salary jobs and for individual industries. The number of wage and salary jobs in January 1980 is the base for the indexes—meaning that the indexes measure change from the levels of employment at the start of 1980 (January 1980 = 100). Indexing allows us to compare rates of change among the industries: which grew fastest? how did growth in any given industry compare with overall growth in wage and salary jobs? which industries have been hurt most by the recession?

Figure 9 shows actual numbers of jobs by industry at the start of the cycle in January 1980; at the peak of the boom (individual industries peaked at somewhat different times); in July 1987; and in mid-1988, when our medium case projects that the economy will bottom out.

These figures do not include some workers who are important to Alaska's economy but who are not paid standard civilian wages and salaries: self-employed people (like small businessmen, most commercial fishermen, and farm workers) and military personnel. (Other figures in this publication look at total employment in Alaska and do include those who aren't paid standard wages or salaries.)

The overall number of wage and salary jobs in Alaska climbed steadily until the end of 1985, although jobs in one industry—construction—had been disappearing since 1984: the economy overall was still adding enough jobs to offset the losses in construction. At the employment peak—which was in September 1985—there were nearly 230 thousand wage and salary jobs in Alaska, or 38 percent more than there had been in January 1980 (Figure 4).[4]

[4]The 38 percent growth in wage and salary jobs as measured on a monthly basis from January 1980 is slightly higher than the growth as measured from annual average employment in 1980—the 35 percent shown in Figure 2.

Figure 4. Alaska Employment Index*
All Wage and Salary Jobs

*Seasonally adjusted and smoothed.

At the end of 1985 the total number of jobs in the state began dropping. By June 1987, the economy had lost 21 thousand jobs, and wage and salary employment stood at 209 thousand—still 25 percent higher than at the start of 1980. Under our medium case we project that Alaska will lose about 7 thousand more jobs by mid-1988. We project that Alaska will have about 202 thousand wage and salary jobs at the end of the recession—28 thousand fewer than it had in 1985, but still about 30 thousand, or nearly 20 percent, more than it had in 1980.

Figure 5. Alaska Construction Employment Index*

*Seasonally adjusted and smoothed.

Construction Jobs

Construction employment in Alaska more than doubled between 1980 and 1984—but between 1984 and mid-1987 half of Alaska's construction jobs disappeared. We project that construction employment by mid-1988 will be 65 percent less than it was in 1984.

At the height of Alaska construction employment in January 1984, more than 22 thousand men and women had construction jobs—which was more than twice as many construction workers as there had been in 1980. But construction has also taken the hardest hit in the recession: by June 1987, 12 thousand of the construction jobs that existed in 1984 had disappeared—a drop of 55 percent. That loss put construction employment back just about where it had been in 1980 (Figure 5).

We project that roughly 2 thousand more construction jobs will disappear between now and the middle of 1988—mostly because the demand for construction workers in the near term is likely to be

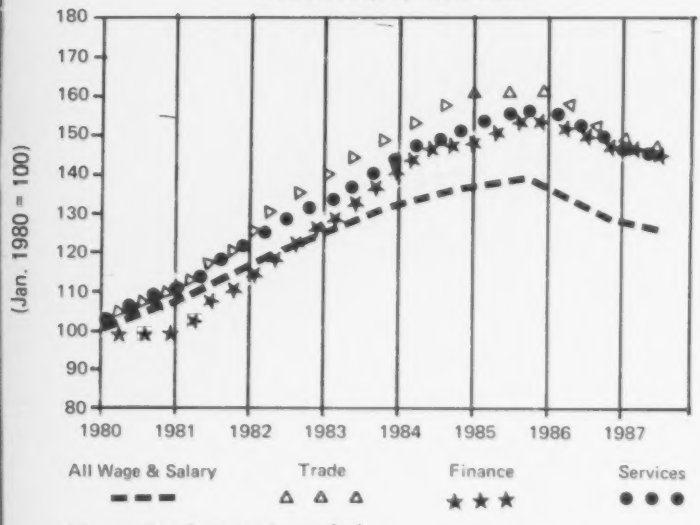
relatively low. By mid-1988, numbers of construction jobs in Alaska will be down about 65 percent from the peak 1984 level (Figure 9).

Trade, Finance, and Service Jobs

Alaska's trade, finance and service industries were second only to construction in growth in the early 1980s—they grew more than 50 percent. But they have also been hit hard by the recession: an estimated 14 percent of trade and service jobs will disappear before the recession ends.

At their peaks in late 1985, the trade, finance, and service industries each had between 50 and 60 percent more jobs than had existed in January 1980 (Figure 6). These industries include stores, banks, insurance companies, hotels, and other kinds of establishments that sell goods or offer services. Roughly 91 thousand trade and service jobs existed in Alaska in September 1985, or 40 percent of all wage and salary jobs. By June 1987 10 thousand trade and service jobs—11 percent of all such jobs—had disappeared. The finance industry had lost about 600 jobs—5 percent—of its wage and salary jobs by June 1987, but that figure does not include real estate agents and others who work for commissions rather than salaries. We don't have figures on numbers of such jobs lost during the recession, but we do know that the housing industry has been one of the most visible casualties of the economic downturn.

Figure 6. Alaska Trade, Finance, and Services Employment Index*



*Seasonally adjusted and smoothed.

Our medium case projects that another 3 thousand trade and service jobs will disappear before the recession ends. We expect more job loss in those industries because of the business overextension we described earlier. Some of the rapid expansion of trades and services in the early 1980s was based on businesses' expectation that markets would continue to grow—so some of the job loss to date has been the result not of shrinking markets but simply of markets that stopped growing. Also, consumers' and businesses' general lack of confidence in the economy right now will continue to hurt the trade and service industries. Overall from the peak in 1985 through mid-1988, 14 percent of trade and service jobs will likely disappear (Figure 9).

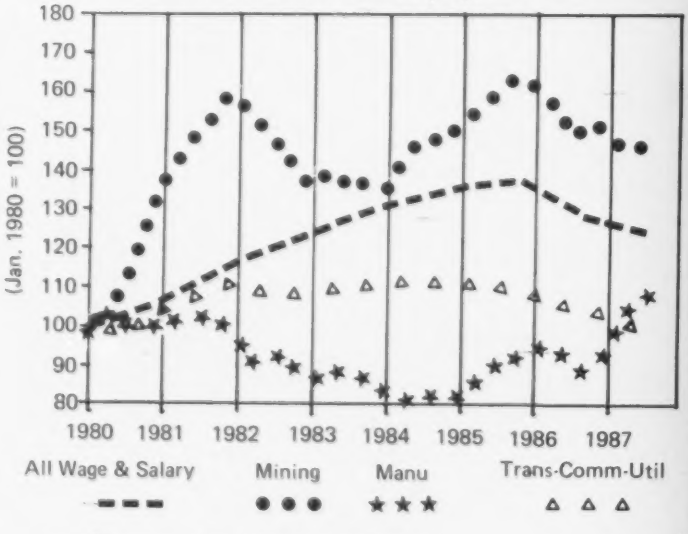
Mining, Manufacturing, and Transportation, Communications, and Utilities Jobs

Led by growing numbers of petroleum jobs, mining employment in Alaska in the early 1980s was up 60 percent—but the recession eliminated about 10 percent of mining jobs. Numbers of jobs in transportation, communications, and utilities grew a much more modest 11 percent—and declined by the same amount between 1985 and 1987. Jobs in manufacturing—which consist mainly of seafood processing and timber industry work—have actually increased during the recession.

Mining jobs shown in Figures 7 and 9 are almost entirely jobs in the petroleum industry.[5] Numbers of such jobs grew quickly in the first half of the 1980s,

[5]Figures 12 and 13 later in the text separate petroleum from other mining activity.

Figure 7. Alaska Mining, Manufacturing, and Transportation-Communication-Utilities Employment Index*



*Seasonally adjusted and smoothed.

as high oil prices prompted the oil industry to sharply increase exploration and development on the North Slope, and as some oil companies increasingly shifted management and support jobs to Anchorage from other U.S. cities.

About 1 thousand—or nearly 10 percent—of the roughly 10 thousand mining jobs in Alaska in 1985 disappeared with the crash of oil prices. We project that the number of petroleum jobs will rebound slightly by mid-1988, if oil prices stabilize in their current range and the oil industry begins to recover. Still, as Figure 9 shows, by the end of the recession there are likely to be about 9 percent fewer petroleum jobs than there were in 1985.

The numbers of Alaska jobs in the transportation, communication, and utilities industries grew about 11 percent between 1980 and 1985—a much slower rate than overall job growth during that period. The number of jobs in those industries declined from a peak of about 19 thousand in mid-1985 to 17 thousand two years later. That loss brought the industries down to roughly the size they were in 1980, and we expect them to remain about the same through the middle of next year (Figure 9).

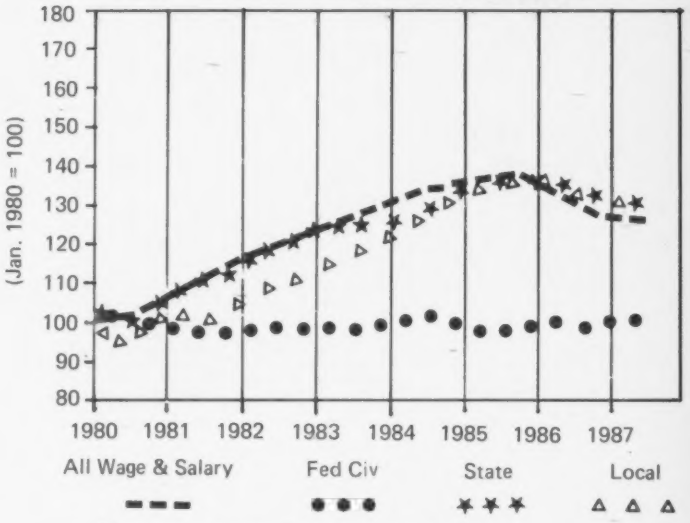
Alaska's manufacturing industries depend not on state government spending but on the size of the harvests and the demand for Alaska's fish and timber. In the early 1980s, when other parts of the economy were growing, overall employment in manufacturing actually dropped—and during the recession, when other industries have shrunk, these industries have grown. As Figure 7 shows, manufacturing employment in the 1980s was at its lowest point in 1984 and 1985 and then began to rebound. By July 1987 there were nearly 15 thousand jobs in manufacturing—or 6 percent more than there had been in 1980. We project under our medium case that numbers of Alaska jobs in manufacturing will decline slightly by the middle of next year (Figure 9).

Government Jobs

Numbers of state and local government jobs in Alaska grew about 37 percent between 1980 and 1985—just about the same amount that overall numbers of wage and salary jobs grew. By mid-1988, state and local governments will likely be employing about 11 percent fewer Alaskans than in 1985. Federal civilian jobs, unaffected by the ups and downs of petroleum revenues, have helped moderate the effects of the recession.

About 50 thousand Alaskans—22 percent of all Alaska wage and salary employees—worked for state and local governments in October 1985. That represented a 37 percent increase in numbers of state and local jobs between early 1980 and late 1985 (Figure 8). More than 3 thousand of those state and local

Figure 8. Alaska Government Employment Index*



*Seasonally adjusted and smoothed.

jobs had disappeared by July 1987. The drop in state and local jobs to date has been relatively modest as compared with the huge drop in anticipated petroleum revenues. This has been true because governments concentrated their early budget cuts in capital spending and other areas that affected fewer jobs.

Our medium case projects that numbers of state and local jobs in Alaska will continue to shrink through mid-1988, as governments around the state continue to adjust to less money. By June 1988, about 2 thousand more state and local jobs are likely to disappear (Figure 9).

Numbers of federal civilian jobs in Alaska have changed little in the 1980s. At the start of the decade there were nearly 18 thousand such jobs in Alaska. Those numbers declined a bit in the early 1980s, but grew again recently. And as Figure 9 shows, we expect about the same number next year. These federal jobs have historically and still do provide some stability for the volatile Alaska economy.

Income Loss

Real personal income (income adjusted for inflation) in Alaska dropped about 5 percent from late 1985 through early 1987. Our medium case projects that at the bottom of the recession real personal income will be about 8 percent below its 1985 peak, but still about 27 percent higher than in 1980 (Figure 10).

Measured in 1986 dollars, Alaska personal income from all sources reached a high of $9.7 billion in the third quarter of 1985 and fell to about $9.2 billion in the first quarter of 1987. However, we

Figure 9. Alaska Wage and Salary Jobs, By Industry, Selected Years, 1980-1988

	January 1980	Employment Peak[a]	July 1987	June 1988[b]	PERCENT CHANGE BY JUNE 1988 From the Peak	From 1980
Construction	10,000	22,000 (Jan. 1984)	10,200	8,000	Construction −64%	−20%
Trade & Services[c]	58,000	91,400 (Nov. 1985)	82,100	79,000	Trade & Services[c] −14%	+36%
State & Local Govt.	36,750	50,200 (Oct. 1985)	47,100	45,000	State & Local Govt. −11%	+22%
Transportation,[c] Communication, Utilities	17,000	19,000 (May 1985)	17,000	17,000	Trans., Comm., Util.[c] −11%	0%
Finance, Insurance, Real Estate	7,740	11,800 (Oct. 1985)	11,000	11,000	Fin., Ins., Real Est. −7%	+42%
Petroleum & Mining	6,000	9,800 (Sept. 1985)	8,700	9,000	Petroleum & Mining −9%	+50%
Federal Civilian	17,900	17,600[a] (Sept. 1985)	18,000	18,000	Federal Civilian +2%	+1%
Manufacturing[d]	13,800	12,800[a] (Sept. 1985)	14,700	14,000	Manufacturing[d] +10%	+1%

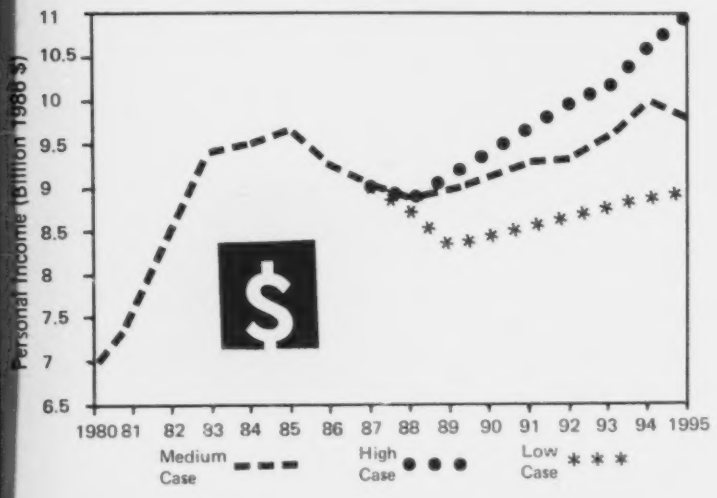
[a]Employment in various industries peaked at somewhat different times, but mostly in late 1985. Federal civilian and manufacturing employment did not peak in 1985.

[b]As projected under the medium case economic projections from ISER's report, *Alaska's Economy and Housing Market.*

[c]Tourism accounts for a portion of employment in these industries; tourism employment has not declined in recent years.

[d]This category is largely made up of seafood processing and timber harvesting and processing. It does not include employment in fish harvesting, which has not declined. Most commercial fishermen do not work for standard wages or salaries.

Figure 10. Alaska Real Personal Income (in 1986 $) Historical and Projected Under Three Cases, 1980-1995



think the federal Bureau of Economic Analysis (BEA) figures showing such a modest decline in personal income may be misleading for two reasons. First, the statistics probably don't adequately gauge the severity of the drop in Alaskans' personal income from rents, interest, and dividends or the drop in proprietors' income; accurate information on those sources of income is available only after a considerable delay. Second, personal income does not measure the capital gains and losses for property owners when values go up and down—so "personal income" is really an incomplete gauge of both consumer purchasing power and economic well-being, particularly in times of rapid economic change. Despite these shortcomings, the BEA figures are the best available on personal income.

Population and Household Losses

Alaska's population reached 540 thousand in 1985—up 30 percent from 1980. Our medium case projects that by the middle of 1988 the state population will be about 3 percent smaller, to stand around 524 thousand (Figure 11). Numbers of households will likely drop about the same proportion.

There are several reasons why we expect the population and household loss to be smaller than job loss, which we project at 10 percent. One reason is that many of the jobs Alaska has lost during the recession were in construction, and many construction workers in the state have historically been nonresidents.

Other reasons have to do with natural increase in the population and changes in its composition. The number of people we expect to live in Alaska in 1988 is the net result of people coming to and leaving the state and of natural increase within Alaska. If the 540 thousand persons living in Alaska in 1985 had all stayed and no one else had emigrated to the state, natural increase alone would have added roughly 30 thousand to the population by 1988. Also, the proportion of working-age adults (those 16 to 64) in the Alaska population seems to be declining as babies are born and as some families with working-age adults leave the state.

Also, not all those who have lost their jobs have left the state—some have stayed, either continuing to look for work or dropping out of the labor force at least temporarily. Finally, some Alaskans—particularly those over 65 and Alaska Natives—are not as likely to base their decisions about staying in Alaska on job opportunities.

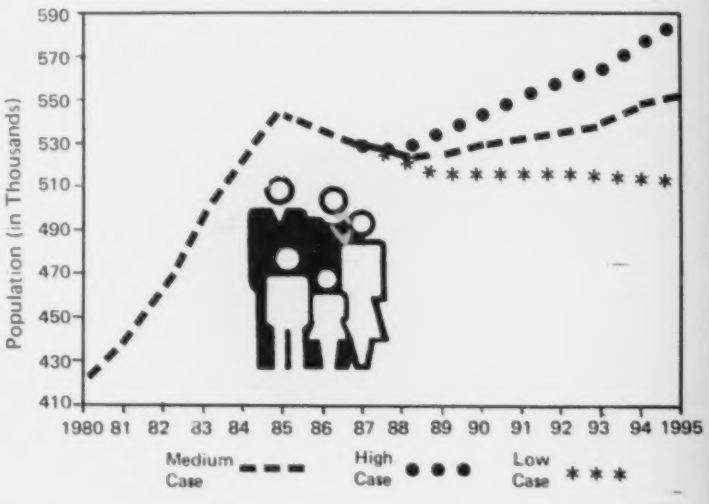
Regional Effects of Recession

The effects of both the economic recession and the boom that came before have been concentrated in those regions of Alaska where petroleum, support industries, and government are most important.

Anchorage's economy has seen the most growth and the most decline in the 1980s. Numbers of wage and salary jobs in Anchorage grew 43 percent between 1980 and 1985, as compared with just 10 percent in southeast Alaska; job growth in other regions fell between those extremes, with job growth throughout the state during that period at 35 percent.

Anchorage and the adjacent Mat-Su Borough

Figure 11. Alaska Population, Historical and Projected Under Three Cases, 1980-1995



have also seen the most jobs disappear during the recession: of the 21 thousand jobs Alaska lost between late 1985 and mid-1987, Anchorage lost 14 thousand—or two-thirds of the total. The North Slope, site of Prudhoe Bay and other oil fields, has also been hit by job loss in the wake of low oil prices.

Regions that rely more on basic industries other than petroleum have been less severely affected by the downturn in the economy—although all regions have seen job opportunities shrink, personal income decline, and unemployment increase.

THE RECOVERY: ECONOMIC PROJECTIONS

What can stop the downward spiral of Alaska's economy and start it growing again? Essentially, we expect the recession to end when the excess capacity —capacity above what Alaska's economy can sustain in the absence of huge petroleum revenues—in the construction, state and local government, and support industries has been eliminated. We are most of the way to that point now, and we expect the economy to bottom out around the middle of next year.

But what then? What can we point to that will start Alaska's economy growing again? Unlike in the recent past, when we have looked to specific big projects to get the economy moving, this time we think it most likely that a slow but steady recovery will be led by gradual growth in Alaska basic industries. The basic industries are those that drive the economy by producing goods or services for export and sale to the rest of the U.S. Alaska's most important basic industries are petroleum, other mining, fishing, timber, tourism, and federal government activities, both civilian and military. We classify federal activities as a basic industry for Alaska because the federal government's activities here are for the benefit of the whole country rather than just Alaska, and because military and most federal civilian jobs are independent of economic activity in Alaska.

The initial move toward recovery will be prompted by basic industries other than petroleum. All these are relatively healthy, they have helped moderate the current economic decline, and they have opportunities for expansion.

In the longer run, recovery of the petroleum industry will be key to Alaska's economic recovery. The recovery of the petroleum industry in Alaska is at least two years away, because of the long lead times needed for developing major North Slope fields and because the world oil price has not yet stabilized at a level that justifies significant new North Slope development. We expect oil prices over the next few years to fluctuate within a band of about $2 on either side of the current world oil price of around $18 a barrel. With oil prices in that range, the industry will begin a slow recovery and will cautiously undertake carefully selected development activities. After 1990, the price of oil should firm and more exploration and development will take place in Alaska.

All of Alaska's basic industries are important to the economy, but petroleum is and will remain throughout the forecast period the state's dominant basic industry—because of its contribution to gross state product and its potential for expanding rapidly and stimulating the economy.

Figures 12 and 13 show the contributions of the basic industries to employment and to what economists call "value added," and help explain why we emphasize the importance of petroleum to Alaska's economy. If we look just at numbers of jobs each industry contributes to the economy, we would judge petroleum to be an important but not a dominant industry: in 1986 (the most recent year for which we have figures) 12 percent of the basic industry jobs in Alaska were in petroleum, while the federal government was responsible for 54 percent of basic jobs. Fishing and seafood processing together accounted for another 20 percent. Tourism contributed another nearly 8 percent of basic jobs, logging and timber processing 4 percent, mining other than petroleum about 2 percent, and agriculture 1 percent.

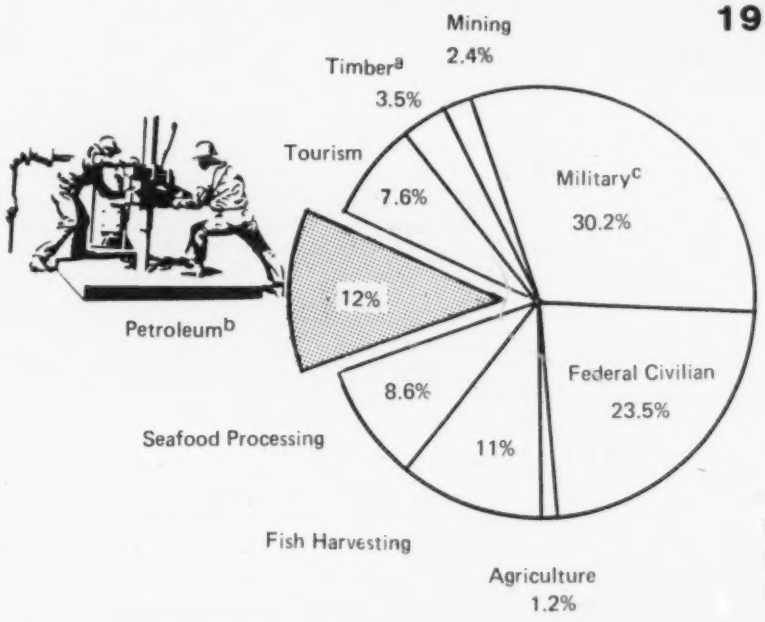
But if we look at *value added* by each of the basic industries—a much more comprehensive measure of the potential contribution of an industry to the economy—a different picture emerges. Value added consists primarily of the wages and salaries contributed by an industry, taxes paid (federal, state, and local), depreciation, and profits generated[6]—profits that are the source of money for new capital spending. Taxes paid by the petroleum industry have paid for most of state government operation in the 1980s; profits from Prudhoe Bay oil prompted the oil companies to undertake big new capital projects on the North Slope. Of course, not all of this value added remains in Alaska—federal taxes and much of the profits do not stay in Alaska.

Figure 13 shows how Alaska's basic industries contribute to value added. The percentages cited are for 1984, the most recent year for which we have calculated these figures. Oil prices were higher then —so the current contribution of petroleum would be smaller in relation to those of the other industries. But the general picture would be the same: petroleum creates much more "value added" than do the other basic industries combined.

Together, Alaska's basic industries other than petroleum are responsible for about 70 thousand jobs

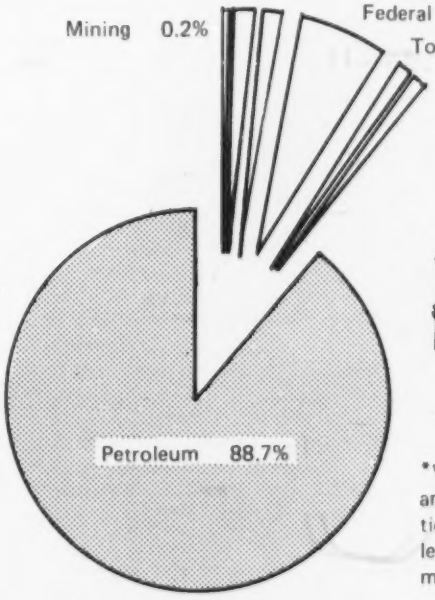
[6]Including royalties in the petroleum industry.

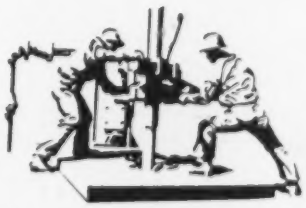
Figure 12. Alaska Basic Industry Employment 1986



[a]Includes havesting and processing.
[b]Includes production and processing.
[c]Active duty military personnel.

Figure 13. Value Added* of Alaska Basic Industries 1984





*Value added is primarily wages and salaries generated by an industry; federal, state, and local taxes paid; depreciation; and profits. Not all of the value added by the petroleum industry in Alaska stays in the state—federal taxes and much of the corporate profits do not remain in Alaska.

Note: Agriculture's contribution to value added in 1984 was 0.03%—too small to show on the chart.

in Alaska—and more jobs in those industries will certainly benefit Alaska's economy. We just want to point out here that job creation is only one of several measures of an industry's contribution to the economy.

Summary: 1980-1995

Figure 14 summarizes historical and projected changes in Alaska population, wage and salary jobs, and personal income from 1980 through 1995. Figure 15 divides all Alaska jobs (wage and salary and other) into four categories and shows historical and projected changes in their absolute and relative sizes.

Figure 14 tells us that while the current recession is severe, it is not taking away all the gains we made in the first half of the 1980s. It also shows that the economic recovery—as projected under our medium case—will be slow as compared with growth in the recent past.

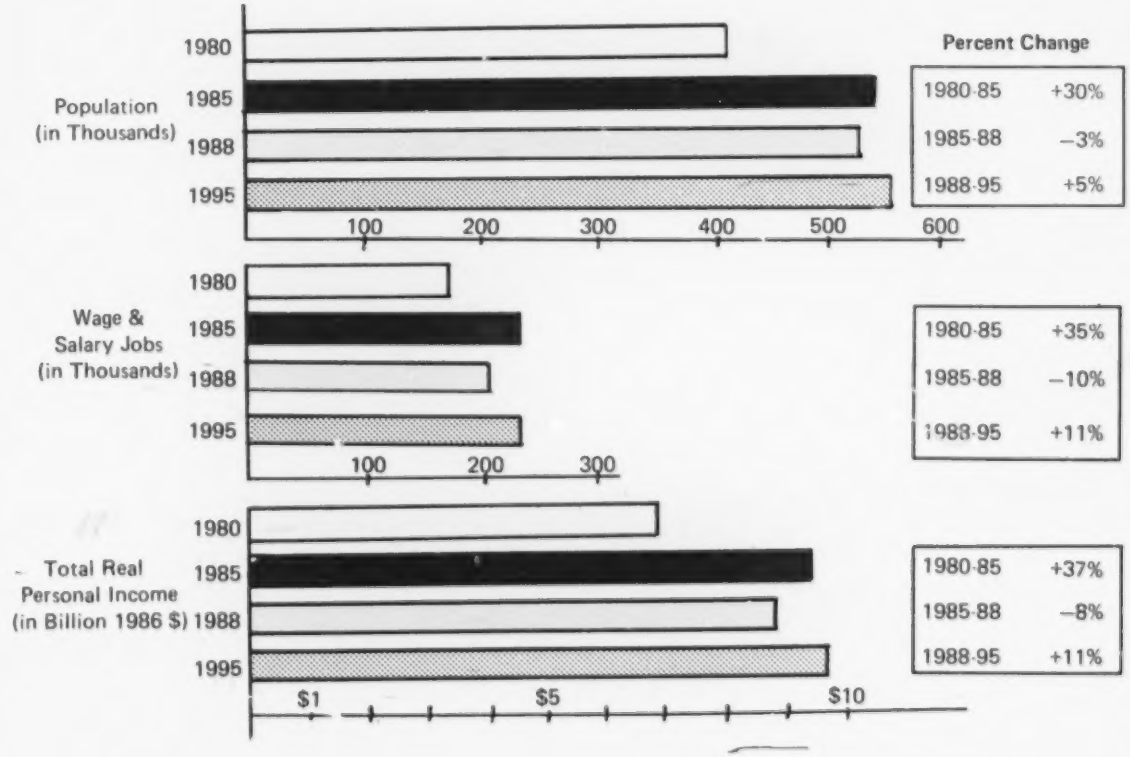
Alaska's population grew 30 percent between 1980 and 1985. Between 1985 and mid-1988 it will likely drop about 3 percent, and grow by 5 percent between 1988 and 1995.

Numbers of wage and salary jobs grew 35 percent in the first half of the decade, and are projected to drop 10 percent by 1988. Between 1988 and 1995 such jobs would increase by 11 percent under our medium-case projections.

Total real personal income (inflation-adjusted, in 1986 dollars) rose 37 percent between 1980 and 1985, and is projected to drop 8 percent by the bottom of the recession. Under our medium-case projections, real income will increase about 11 percent from 1988 to 1995.

Figure 15 divides all Alaska jobs into basic jobs, support jobs, infrastructure jobs, and state and local government jobs. Basic industry jobs, as we noted earlier, are those that drive the economy by

Figure 14. Historical and Projected[a] Change in Alaska Population, Jobs, and Income, 1980-1995



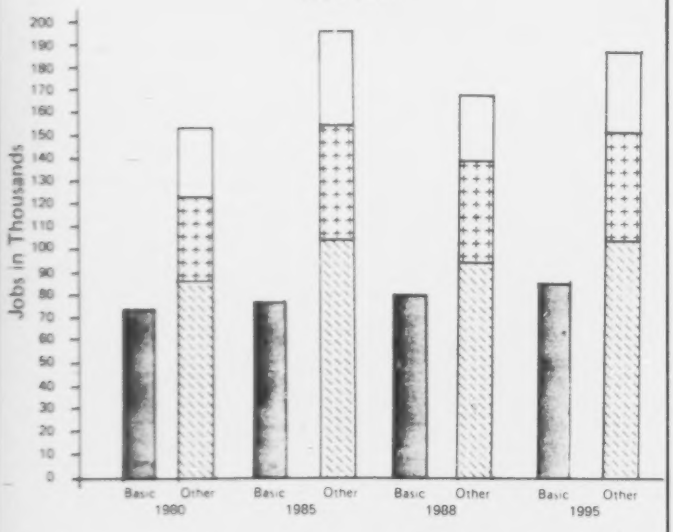
[a]As projected under medium-case economic projections prepared for *Alaska's Economy and Housing Market*, ISER report, October 1987.

producing goods or services for export. The other kinds of jobs shown in the figure—support, infrastructure, and state and local government—are generated by basic industry activity: all those jobs in one way or another produce goods or services for local use. The industries that make up the support and infrastructure categories are listed at the bottom of Figure 15.

Between 1980 and 1985 the number of basic jobs in Alaska grew less than 10 percent, while numbers of support, infrastructure—particularly construction—and state and local government jobs grew several times that fast. As we discussed earlier, those high levels of support and other non-basic jobs could be sustained only when the state government was pumping billions of dollars into the economy.

With the crash of oil prices and the abrupt decline in state spending, Alaska's non-basic industries began to shrink, moving back toward the relationship they had with the basic industries before the boom.

Figure 15. Historical and Projected* Changes in Alaska Basic and Other Jobs, Selected Years, 1980-1995



Basic: Basic industries are those that drive the economy by producing goods or services for export. They are: petroleum, other mining, fishing, timber, tourism, and federal government. Here we also include those portions of the construction, manufacturing, and transportation industries that produce for export.

Support: Support industries provide a variety of services for local residents and businesses. These industries include wholesale and retail trade, finance insurance, real estate, and other service industries.

State & Local Govt. The combined numbers of state and local government in jobs in Alaska.

Infrastructure Infrastructure industries are defined as transportation, communications, utilities, and those portions of construction that provide just local services.

*As projected under medium-case economic projections prepared for *Alaska's Economy and Housing Market*, ISER report, October 1987.

Wage and Salary Jobs

Numbers of wage and salary jobs in Alaska would increase about 1.4 percent annually between 1988 and 1995 under our medium-case projections.

Figure 3 shows that under the medium case, numbers of wage and salary jobs would regain their 1985 levels by 1994. If the economy grows faster, Alaska could have about 8 percent more jobs by 1995; under the worst case, very few jobs would be created between 1988 and 1995.

New Basic Industry Jobs

Our medium case projects that about 7 thousand jobs will be added to Alaska's basic industries between now and 1995—which would be an increase of about nine percent. Those increases will be largely in military and mining (including petroleum) employment, but all basic industries should see some growth.

As Figure 16 shows, numbers of basic industry jobs could be slightly higher or somewhat lower if the economy grows faster or slower than under the medium case.

The Red Dog Mine in northwest Alaska and the Greens Creek Mine in the southeast will be the two main additions to Alaska's mining industry in the short run. A number of smaller mines in the interior and southeast regions of the state are in the early stages of development.

Alaska's fishing industry is benefiting from strong demand for seafood and from recent U.S. legislation that excludes foreign fishing boats from certain fisheries. Opportunities exist for growth in mariculture, bottom fishing, and specialty markets. Fishing is a dynamic and very competitive industry, and Alaska producers and processors will have to adapt to changing technologies and market conditions. We assume the number of jobs in the Alaska fishing industry will grow moderately between now and 1995.

The timber industry has been enjoying a boom in Alaska recently, particularly in the southeast region, because Native corporations that received lands under terms of the Alaska Native Claims Settlement Act have been harvesting more timber. We anticipate

that increased logging from Native lands will continue into the early 1990s and that employment will then stabilize. No additional processing of timber—beyond what is already being done—is likely to take place in Alaska during the forecast period.

We expect tourism to continue to grow. Among the large projects now being discussed are new visitor facilities at Denali National Park and a large winter resort just north of Anchorage. Anchorage has also put in a bid to host the 1994 Winter Olympics. The state government and others are increasing their efforts to bring foreign tourists to Alaska—efforts that are being helped by the fall in the value of the dollar relative to some foreign currencies. We expect the numbers of tourists traveling to Alaska to continue to grow as they have historically.

Even with the potential growth we've described in other basic industries, it is military employment in Alaska that we expect to grow most rapidly over the next few years. A new light infantry division that is scheduled to be assigned to Fairbanks between now and 1989 will add nearly 4 thousand military and federal civilian jobs to the economy.

Future of State and Local Government Jobs

We assume there will continue to be pressure to hold government wages down, so more people can have jobs. Our medium case projects that if those wage rates are held down, numbers of state and local government jobs will begin to recover after 1988 and by 1993 regain the jobs lost during the recession (Figure 17).

Figure 16. Alaska Basic Industry Employment, Historical and Projected Under Three Cases, 1980-1995

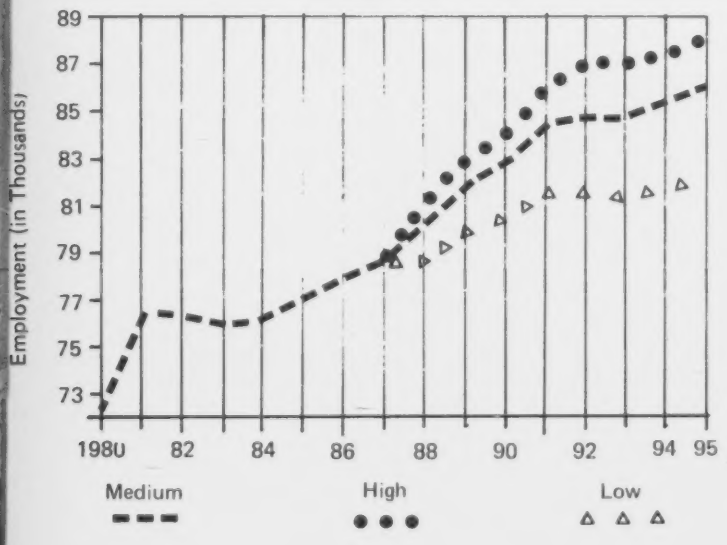
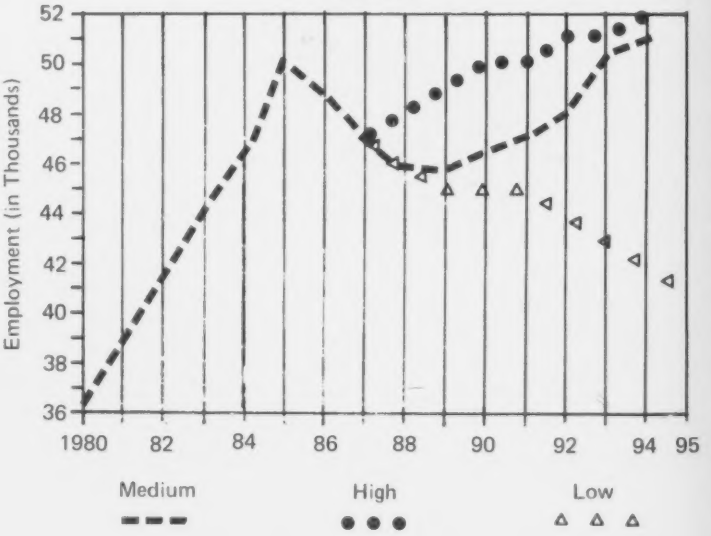


Figure 17. Alaska State and Local Government Employment, Historical and Projected Under Three Cases, 1980-1995



Less oil money has meant that the state government and all local governments have had to cut spending back sharply. They have tried to keep layoffs to a minimum by concentrating budget cuts in capital spending, loan programs, and equipment and supply purchases. They have also attempted to hold down wages.

We think that the unprecedented severity of the current recession will put tremendous pressure on state and local governments to maintain spending at or near its current level while at the same time holding the line on household and business taxes. Evidence of that pressure are the modest budget cuts the 1987 Alaska Legislature made in the state operating budget, even though the state Department of Revenue was concurrently projecting deficits of several hundred million dollars for that year and coming years.

Could the state keep spending near its current level, if oil prices stabilized slightly above or slightly below the current world price of about $18 a barrel? For the state government to maintain its current spending level of about $2 billion annually (in 1986 dollars) through 1995 would require using some combination of a number of possible sources: potentially large cash settlements of pending litigation, a portion of Permanent Fund earnings, personal income taxes, or increased petroleum tax rates. The timing and the specific choices among these possible measures would have slightly different effects on the overall state economy. We are not advocating any of these measures—we are just pointing out that they

would be required to maintain current levels of state spending if oil prices stay at around $18 a barrel.

If oil prices are higher than we assume under the medium case, state revenues would be higher and could reduce pressure to tap other revenues and could push up state and local employment. But if oil prices drop much lower than we expect, state and local employment could continue to decline through 1995 (Figure 17).

Infrastructure and Support Jobs

The infrastructure industries and the support industries will be the slowest to recover. That slow recovery of these industries will keep overall wage and salary employment in Alaska below the 1985 peak until 1994 (Figures 18 and 19).

During the boom the infrastructure and support industries became much bigger than the Alaska economy could sustain without huge state spending: that excess capacity will take time to absorb. Also, real incomes of Alaskans will be lower, and there will be less government spending for capital goods, services, and equipment. The construction industry—which is the segment of the infrastructure industry that has been hit hardest by the recession—will remain smaller than we might expect even after economic growth resumes, until the many vacant Alaska residential and commercial properties have been filled.

If the economy grows faster or slower than we project under our medium case, infrastructure employment could be 10 to 15 percent higher or lower by 1995, and support employment about 10 percent higher or lower (Figures 18 and 19).

Figure 18. Alaska Infrastructure Employment, Historical and Projected Under Three Cases, 1980-1995

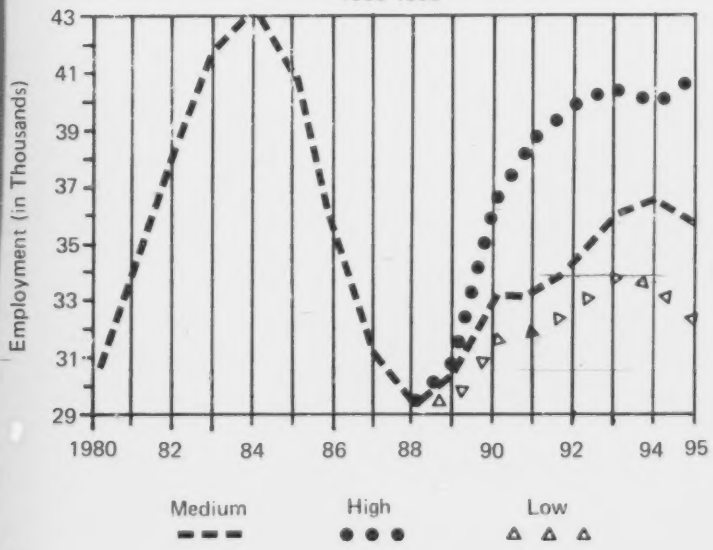
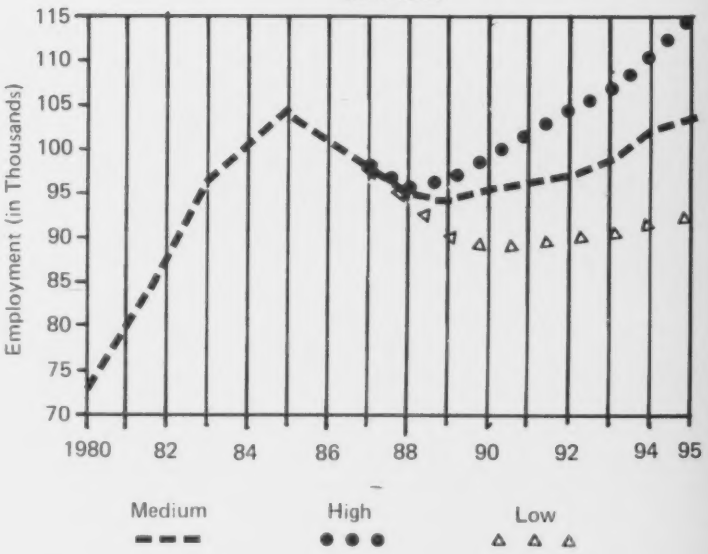


Figure 19. Alaska Support Industry Employment, Historical and Projected Under Three Cases, 1980-1995



Personal Income

Personal income in Alaska will begin growing again as employment grows, and our medium case projects that by 1994 real personal income—income adjusted for inflation—will be about 2 percent higher than it was in 1985, and roughly 40 percent higher than it was in 1980 (Figure 10).

Real per capita disposable income—which is income per Alaskan, adjusted for inflation and minus taxes—will grow little between now and 1995, if personal state income taxes are reimposed or Permanent Fund dividends are eliminated. Either of those measures would keep real per capita disposable income in 1994 at around $15 thousand—about $1 thousand below its 1983 peak of $16 thousand. (All these figures are in 1986 dollars.) Faster or slower growth than under the medium case could make real personal income roughly 12 percent higher or lower by 1995.

Population and Household Growth

Our medium case projects population on average to grow just under 1 percent a year from 1988 through 1995 (Figure 11).

Just as more jobs than people disappeared during the recession, jobs will be created faster than the population grows during the recovery—about 1.4 percent annually as compared with less than 1 percent,

under our medium-case projections. That will happen because as new jobs become available in Alaska, they will be taken by those already in the state who had been unable to find jobs before, or who had stopped looking for work until the economy began to pick up. Population growth in Alaska in the next few years will be mainly through natural increase rather than emigration to the state.

Numbers of Alaska households will grow slightly faster than the population—just over 1 percent annually—because the average household is likely to become smaller in the coming years, continuing recent trends. By 1991, the numbers of households in the state will exceed the previous high of 1985—but the composition of those households will be different. The numbers and the proportions of military and Native households will increase relative to numbers and proportions of civilian non-Native households.

Under faster or slower economic growth, Alaska could have about 7 percent more or fewer residents by 1995.

Regional Economic Recovery

We expect—based on our medium-case projections—that the economies of Fairbanks and nearby areas and of southeast Alaska will recover fastest, because most of the basic industry growth in the next few years is projected to be in those regions.

Fairbanks will enjoy a stronger recovery than some other areas of the state because most of a new light infantry division will be stationed there over the next few years. We also expect some growth in the timber and fishing industries, which are important to Kodiak, the Aleutians, and parts of the southeast region.

On the other hand, the Anchorage and North Slope regions will likely be the slowest to recover, because they depend heavily on the petroleum industry and on state spending. Anchorage's recovery will also be hampered by excess capacity in its support industries; it will take time for the market to absorb that excess. Other regions of the state will either remain stable or begin slow growth in 1989.

INSTITUTE OF SOCIAL AND ECONOMIC RESEARCH

The University of Alaska's Institute of Social and Economic Research (ISER) studies the population and economy of Alaska to help public and private agencies and individuals better understand social and economic change in Alaska and enable them to make more informed decisions about Alaska's future.

Alaska's size, geographic isolation, resource-based economy, small population, young political institutions, urban-rural differences, and other characteristics make it unique among the states, but similar to other northern regions. For that reason, ISER examines not only those issues unique to Alaska but those relevant to other northern areas as well. ISER research provides specific information needed by policymakers and others as well as broad-based knowledge of Alaska's social, economic, and political processes.

As part of the University of Alaska Anchorage, ISER shares that institution's mission of serving the higher educational needs of the state's largest population, business, and government center. ISER's faculty and staff produce and disseminate knowledge about Alaska by carrying out a wide variety of research projects, by teaching, by involving students in research, and through many public service activities.

OTHER ISER PUBLICATIONS

Institute of Social and Economic Research (ISER) publications over the past 25 years have looked at virtually all the major economic and social issues facing Alaska. A list, by topic, of hundreds of ISER publications is available from ISER in the library building on the campus of the University of Alaska Anchorage (phone 907-786-7710). Below are brief descriptions of some recent work which ISER produced or contributed to. Unless otherwise noted, all publications are available from ISER, University of Alaska Anchorage, 3211 Providence Drive, Anchorage, Alaska 99508 (907-786-7710).

Alaska State Government and Politics, *edited by Gerald A. McBeath, professor of political science with the University of Alaska Fairbanks, and Thomas A. Morehouse, professor of political science with ISER, University of Alaska Anchorage. Published by University of Alaska Press, 1987, 400 pages. Soft-cover copies $17.00 and hardbound $27.00, plus $1.50 for postage and handling if ordered by mail. Available from University of Alaska Press, Signers' Hall, University of Alaska Fairbanks, Fairbanks, Alaska 99775-1580.*

The first book that comprehensively describes Alaska state government and politics is now available from the University of Alaska Press. The book describes the authorities, organization, and functions of state government as well as the people and the events that put life into government operations. It also discusses the private forces that influence government, including the press, public opinion, and interest groups. The book was written by eleven political scientists and one historian, all of whom now teach or previously taught at the University of Alaska. Several of the authors have also been directly involved in state government.

Developing America's Northern Frontier, *edited by Theodore Lane, adjunct professor of economics, ISER, University of Alaska Anchorage. Published by University Press of America, 1987, 250 pages. Soft-cover copies $11.50. Available from ISER.*

The ten essays and a technical appendix in this book present some U.S. and Canadian perspectives on development issues facing the arctic and subarctic areas of Alaska and northern Canada. Written by American and Canadian economists, anthropologists, and others, the book examines topics that range from the relationships between Native peoples and economic development to the potential for more energy and other kinds of development on the northern frontier. Overall, the book gives readers insight into the complexity and diversity of problems accompanying economic development in Alaska and northern Canada.

Native Claims and Political Development, *by Thomas A. Morehouse, professor of political science with ISER, University of Alaska Anchorage. ISER Occasional Paper No. 18, October 1987, 28 pages. Available for $2.00 from ISER.*

This paper discusses six existing and proposed settlements of Native claims in Alaska and northern Canada. The author assesses how such settlements fit into the broader, ongoing process of Native political development; he argues that claims settlements should be seen not as "final" political solutions but rather as important junctures in a continuing process of political development.

Report on Alaska Benefits and Costs of Exporting Alaska North Slope Crude Oil, *May 1987. Prepared by ISER for the Finance Committee of the Alaska State Senate by Matthew Berman, Susan Fison, Arlon Tussing, and Samuel VanVactor. Report findings and conclusions available from ISER for $1.50; technical appendixes available at 10 cents per page.*

This report finds that Alaska could reap fiscal and other economic benefits amounting to billions of dollars in the coming years if the federal government agreed to lift the existing ban on the export of crude oil from Alaska's North Slope. It also concludes that such exports would help reduce the United States' balance-of-payments deficit, and that overall the benefits of lifting the ban would far outweigh any potential costs.

"Where Have All The Billions Gone?" *Alaska Review of Social and Economic Conditions, February 1987. By Linda Leask, editor, ISER; Karen Foster, research associate, ISER; and Lee Gorsuch, director, ISER. 36 pages. Available at no charge from ISER.*

This *Review* documents how the State of Alaska spent its billions of dollars in petroleum revenues in the first half of the 1980s. It reports, for instance, how much went into the Permanent Fund; how much was transferred to Alaska's local governments; how much was loaned to individual Alaskans; and how much was spent for capital projects.

Alaska Resources Development, *edited by Thomas A. Morehouse, professor of political science with ISER, University of Alaska Anchorage. Published by Westview Press, 1984, 212 pages. Soft-cover copies $11.00. Available from ISER.*

Alaska's renewable and non-renewable resources and their potential for development are the subjects of this book. Six authors—three economists, a political scientist, a geographer, and a biologist—wrote individual chapters. The book cites as the chief determinants of future resource development in Alaska: (1) the costs of producing resources as compared with their market value; (2) the world political climate and the availability of secure supplies of vital resources outside Alaska; and (3) government policy. Of the three, the first is by far the most important.

Alaska's Urban and Rural Governments, *by Thomas A. Morehouse, professor of political science at ISER; Gerald A. McBeath, professor of political science at the University of Alaska Fairbanks; and Linda Leask, editor and research associate with ISER. Published by University Press of America, 1984. Soft-cover copies $11.25. Available from ISER.*

This book describes all aspects of Alaska's local governments, including the sharp differences in urban and rural systems; their strengths and weaknesses; the quasi-government organizations that share government power in rural areas; the effects that big state oil revenues had on Alaska's local governments in the early 1980s; and the future of local governments around the state.

Alaska's Small Rural High Schools: Are They Working? *by Judith Kleinfeld, professor of educational psychology with the Cener for Cross-Cultural Studies, University of Alaska Fairbanks; G. Williamson McDiarmid, former assistant professor of education with the Center for Cross-Cultural Studies; and David Hagstrom, associate professor of education with the College of Human and Rural Development, University of Alaska Fairbanks. Published by ISER, 1985. Soft-cover copies $5.00. Available from ISER.*

Based on a 1985 study, this book reports that some small village high schools in Alaska are—despite popular opinion to the contrary—providing students with quality education. But the book also finds that other small high schools have serious problems. The authors collected information from 162 small rural high schools throughout Alaska and visited dozens of schools. By analyzing test scores and interviewing local teachers, school officials, and others, the authors were able to assess the advantages and disadvantages of small high schools—which are defined as those with fewer than 100 students. The book also provides specific examples of successful and less successful schools.

Alaska's Constitution: A Citizen's Guide, *by Gordon S. Harrison, former associate professor of political science with the University of Alaska Fairbanks. Published by ISER, Second Edition, 1986, 134 pages. Soft-cover copies $2.00. Available from ISER.*

Several thousand copies of this guide to Alaska's constitution were distributed before the 1982 general election, when Alaskans voted on whether to call a constitutional convention to consider revisions to the constitution. It is a concise, article-by-article explanation of what Alaska's constitutional provisions mean and how they have been tested since the constitution went into effect in 1959. Alaskans decided against calling a convention in 1982, but the guide was so popular that the author updated it for a second edition in 1986.

INSTITUTE OF SOCIAL AND ECONOMIC RESEARCH
University of Alaska Anchorage
E. Lee Gorsuch, Director
3211 Providence Drive
Anchorage, Alaska 99508

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